NEW YORK TIMES
WASHINGTON POST
THE WALL STREET JOURNAL ✓
LOS ANGELES TIMES
WASHINGTON TIMES
FINANCIAL TIMES
USA TODAY

DATE 9/9/96 PAGE B7

Cutthroat Pager Industry Fights for a Beeping Piece of the Pie

■ Messaging: New retail and marketing woes and changing technologies are taking toll.

By CHRIS KRAUL
TIMES STAFF WRITER

SAN DIEGO

At first glance, the $4-billion paging industry would seem to be going full tilt.

The total number of users of digital messaging devices grew by a staggering 8 million customers last year to 35 million; analysts expect a comparable addition to the beeper base this year.

Driving the growth are lower prices and the expanding belief among consumers and businesses that they can't do without an electronic tether.

That belief has benefited supplier companies such as San Diego-based National Dispatch Center, which sells its operator, news and electronic integration services wholesale to some of the nation's largest paging carriers, including PageNet, MobileMedia, SkyTel and AT&T.

Founded in 1990 by former NASA communications expert John MacLeod, National Dispatch is one of San Diego's brightest corporate stars, doubling its revenue every year. Recently it has been adding 100 employees a month to a payroll that already totals 1,200.

But cutthroat price competition and warp-speed changes in technology are sure to make it difficult for all but nimble-footed competitors to keep up. Turbulence in the rapidly consolidating industry has caused paging company stock prices to fall 30% to 60% this year. Some analysts fear outright for paging's future.

All of this movement is having a predictably unsettling impact on National Dispatch Center. "We are dealing with a lot of changes," said MacLeod, who is also NDC's chief executive.

Overall industry revenues—hardware sales plus service—rose by only 4% last year, although the number of users increased by nearly a third, according to Dataquest, a San Jose-based high-tech research firm. The per-customer drop in revenue is a simple result of paging carriers cutting rates for both hardware and service in a bid to grab market share.

"The same thing happened in cellular telephones," said John B. Ledahl, Dataquest's wireless program director. "It's the typical phenomenon of having a lot more people sign up and pricing going down because the cost of [providing] the service is less expensive all the time."

As the pager industry becomes more consumer-oriented and less dominated by business users, carriers are grappling with a host of marketing and retail distribution problems they never encountered when dealing with mainly business customers, said Eric Zimits, a telecommunications analyst at Hambrecht & Quist. Among these problems is "churning," or rapid customer turnover. That's a problem because customers often drop the service before they've been members long enough for their paging service to recoup its sign-up costs.

Meanwhile, the paging industry is being heavily affected by changing technology. Looming on the horizon are two digital communications innovations, PCS and two-way paging, that may significantly alter the playing field and force paging companies to make costly investments in technology that may or may not succeed in the marketplace.

PCS is an acronym for personal communications services—basically, a cellular telephone that includes such features as electronic messaging and paging in the same handset. The device may take market share away from pagers if users can get an affordable all-in-one service package from a telephone or cellular company.

Meanwhile, two-way pagers, a new generation of beepers, are just being introduced. They enable users to respond to a page, much like electronic mail, using a small keyboard incorporated into the unit.

But the technology so far has proven to be a problem: Difficulties encountered by SkyTel, one of the first carriers to offer two-way pagers, caused the stock of parent Mtel to fall sharply last year, creating nasty side effects for other pager shares.

And while Bankers Trust telecommunications analyst Jeanine Oburchay believes it will be years before PCS prices drop low enough to supplant pagers in the hearts and budgets of cost-conscious small businesses, the low-cost digital devices will at least bring prices down.

That's good for customers but bad for carriers whose profit margins will feel the pressure.

Pager service today can cost as little as $8 per month for numerical messages—generally the callers' phone numbers—and roughly twice that for text messages. By contrast, cellular telephones can cost as much as $20 to $30 a month, plus per-minute charges. PCS and other digital cell phone services will cost somewhat more.

Pagers have defied earlier predictions of an imminent demise, most recently when cellular telephones' growing popularity prompted some analysts to predict that customers would simply end up making a mobile call instead of relying on a digital beep to get someone's attention.

But the relatively high cost of cellular calls and the low life of cellular telephone batteries created a niche for beepers. Many subscribers use beepers and cellular phones in tandem, giving out their pager numbers and returning the page by cellular phone.

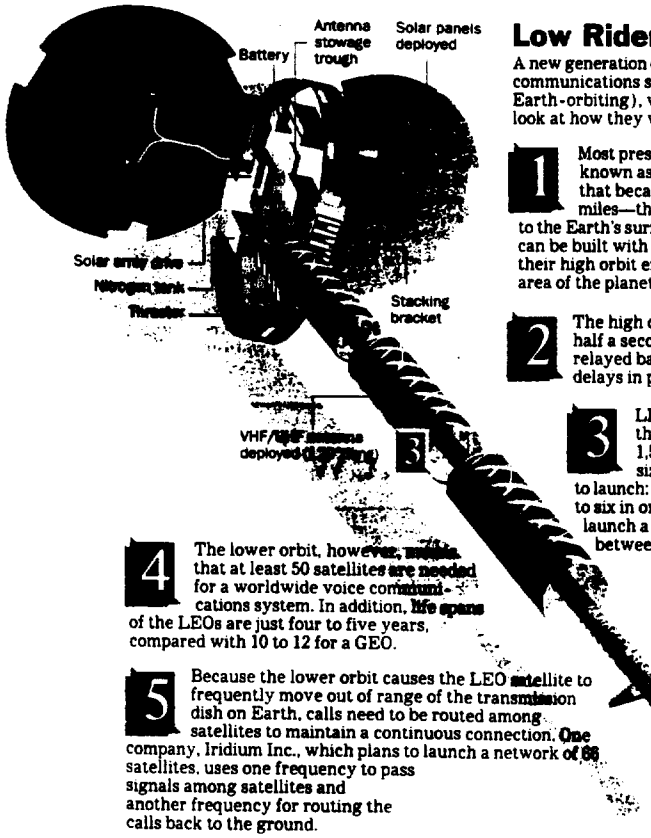
National Dispatch Center figures diversity is its best defense against rapid change. Part of its business is as a wholesaler of operator services to transcribe text pages, which now make up about 10% of all digital pages. Text messages are growing at a 50% annual clip nationwide.

NEW YORK TIMES
WASHINGTON POST
THE WALL STREET JOURNAL ✓
LOS ANGELES TIMES
WASHINGTON TIMES
FINANCIAL TIMES
USA TODAY

DATE 9/9/96 PAGE B5 cont'd

Low Riders

A new generation of smaller, lighter and lower-orbiting communications satellites, known as LEOs (for low-Earth-orbiting), will soon be cluttering the skies. A look at how they work:



1 Most present-day communications satellites, known as GEOs, are geostationary, meaning that because of their high orbit—25,700 miles—they maintain a fixed position relative to the Earth's surface. A global geostationary system can be built with as few as three satellites because their high orbit enables their signals to reach a vast area of the planet.

2 The high orbit also means it can take up to half a second for a ground signal to be relayed back to Earth, causing annoying delays in phone conversations.

3 LEO satellites, some of which weigh less than 500 pounds, orbit at only 500 to 1,500 miles above Earth. The smaller size makes them much more economical to launch: $25 million to $45 million to place three to six in orbit, compared with $500 million to launch a single GEO satellite, which weighs between 5,000 and 7,000 pounds.

4 The lower orbit, however, means that at least 50 satellites are needed for a worldwide voice communications system. In addition, life spans of the LEOs are just four to five years, compared with 10 to 12 for a GEO.

5 Because the lower orbit causes the LEO satellite to frequently move out of range of the transmission dish on Earth, calls need to be routed among satellites to maintain a continuous connection. One company, Iridium Inc., which plans to launch a network of 66 satellites, uses one frequency to pass signals among satellites and another frequency for routing the calls back to the ground.

6 Individual subscribers will be able to use a dual-mode phone that will be able to operate in a conventional cellular system when one is in range, or switch to the satellite phone system. In remote and undeveloped areas that currently lack phone service, satellite "phone booths" and multi-line systems that wire multiple phones to a single satellite connection could be used.

LORENA V. INIGUEZ / Los Angeles Times

21

NEW YORK TIMES
WASHINGTON POST
THE WALL STREET JOURNAL ✓
LOS ANGELES TIMES
WASHINGTON TIMES
FINANCIAL TIMES
USA TODAY

DATE 9/9/96 PAGE B5 cont'd

Look Who's Talking

A look at some of the new communications satellite projects:

Big LEO systems	Description	Cost
Iridium	66-satellite voice, messaging system backed by Motorola, Raytheon, Siemens, Lockheed Martin and 13 other firms. Initial launch date: fall	$3.5 billion
Globalstar	48-satellite voice, messaging system backed by Loral, Qualcomm, Alcatel and others. Initial launch date: 1997	$2.2 billion
ICO Global	10-satellite wireless telephone system launched by the international consortium of Inmarsat, later spun off and backed by Singapore Telecom, Computer Sciences and others. Initial launch date: 1998	$2.6 billion
Teledesic	840-satellite, high-speed, broad-band voice data network launched by Microsoft Chairman Bill Gates and cellular mogul Craig McCaw. Still seeking investors. Initial launch date: by 2000	$10 billion (est.)
Little LEOs	**Description**	**Cost**
Orbcomm Global	28-satellite paging and equipment-monitoring system backed by Teleglobe and the Virginia aerospace firm Orbital Sciences. Initial satellite was launched last year.	$360 million
Starsys Global	Six- to 24-satellite paging and tracking positioning system backed by General Electric and a consortium of French companies. Initial launch date: 1997	$170 to $700 million
Geostationary	**Description**	**Cost**
American Mobile	Single geostationary wireless phone satellite covering North America and backed by Hughes, AT&T and Singapore Telecom. Initial launch was last year.	$500 million

Enthusiasm like Daggatt's represents a marked turnaround from only a year ago. Back then, the outlook for most satellite projects was decidedly downbeat.

Investor response was so tepid to Iridium's proposed bond issue last fall that Motorola yanked a $300-million offering for the satellite network in September. The next month, Globalstar was forced to sideline a planned $400-million debt offering because of lack of investor interest.

Both companies eventually did successfully tap financial markets once investors made an about-face.

After completing a public equity offering last year for a disappointing $20 a share, for instance, Globalstar—backed by aerospace giant Loral Corp., San Diego-based communications equipment maker Qualcomm Inc. and wireless phone carrier AirTouch Communications Inc. of San Francisco—has seen its stock price more than double, to about $43 this month.

The company says it has now secured more than 80% of the financing for the estimated $2.2-billion, 48-satellite project, including infusions from France's giant industrial group Alcatel and Brazilian newspaper magnate Jose Antonio do Nascimento Brito.

Meanwhile, the Iridium project has concluded private financing within its existing investor group, which includes Motorola, Sprint Corp., Korean Mobile Telecom and 14 other firms. Iridium has boosted its total capital base to $2.6 billion from approximately $1.6 billion at the start of the year.

Though the amount raised so far is still short of the $3.4 billion the company says it needs to complete the 66-satellite project, Iridium's Kinzie said a $750-million bank loan recently secured by his company's lead banks as part of the firm's $2.6-billion financial war chest was "oversubscribed" by the 62 participating lenders. Based on such enthusiasm, Kinzie said, he is optimistic that Iridium will meet all of its financial goals.

"The whole progression of communications is how to improve the ability of the consumers to communicate," Kinzie said. "We are just another step up in the chain . . . and will break even with only 1 million subscribers" worldwide, he said.

Others say they can succeed by serving even smaller niche markets.

"Our business plan calls for only 220,000 subscribers in Brazil, 200,000 in the U.S.," said Globalstar's Schwartz. "The amount of penetration for us to break even is not that great."

The numbers are beginning to sink in on Wall Street, where some investors no longer view mobile satellites as a financial long shot.

"When some of these companies first tried to do deals the [prospects for] cash flow was three to four years out; now much more has been accomplished and some of the risk has been taken out and cash flow is only one or two years out," said Howard Udis, a bond manager and vice president at SunAmerica Asset Management. "From the standpoint of some people, these projects don't look quite as risky as they did a year ago."

20

NEW YORK TIMES ____
WASHINGTON POST ____
THE WALL STREET JOURNAL ____
LOS ANGELES TIMES ✓
WASHINGTON TIMES ____
FINANCIAL TIMES ____
USA TODAY ____

DATE 9/9/96 PAGE B5 cont'd

There are some downsides. The wandering LEOs' orbits mean it takes several satellites working together to ensure full-time coverage of any region. Furthermore, the Earth's gravity pulls the smaller LEOs out of orbit after only about five years aloft, compared with the roughly 12 years geostationary satellites can stay in place.

Nevertheless, the units have turned satellite communications into one of telecom's hottest fields.

More than a dozen groups—ranging from the ambitious 66-satellite Iridium project, backed by chip maker Motorola Inc. and 16 others, to the regionally focused Asia Pacific Mobile Telecommunications—are planning to spend about $20 billion over the next decade to launch roughly 1,200 artificial moons. Orbcomm alone plans to add 26 satellites to its current two by the end of 1997. The projected cost is $350 million.

What drives this investment are statistics showing that more than half the world's population has never made a telephone call—suggesting that the potential for growth is enormous if service can be extended to remote villages and neighborhoods. There are only about 800 million phones serving a global population of about 6 billion people, estimates Gregory E. Staples, editor of TeleGeography, a Washington publication that tracks worldwide telephone use.

Although the financial return from serving isolated communities may be small, industry visionaries have their eyes on growing Third World countries that are so vast that serving them via conventional land lines is costly and impractical.

"The telephone penetration in countries like Brazil, China and India is minuscule compared to the potential [telephone] capacity offered by satellites," said Bernard L. Schwartz, chairman of San Jose-based Globalstar Telecommunications Ltd. "The worldwide demand is huge. We are poised . . . to launch a new service that will bring remote parts of the globe onto the information highway."

Other potential markets include globe-trotting business travelers. Some systems, such as Kirkland, Wash.-based Teledesic Corp.'s ambitious 840-satellite system, seek to launch enough transmission capacity and speed to serve personal computer users seeking faster access to the Internet.

For all that, launching communications satellites is a task fraught with huge financial and technical risks.

Operators will need not only deep pockets but exceptional political and strategic skills to outmaneuver the red-hot cellular industry, which is signing up more than 30,000 new customers a day in certain overseas markets.

In developing countries, cellular phones and other terrestrial wireless networks "are growing at a 70% annual rate—and it shows no signs of slowing up," said Wheaton, Md., telecom economist Herschel Shosteck. "There will be plenty of terrestrial service, whether it's wired or wireless, by the time most of these satellites are up and running."

Adds Scott Blake Harris, a Washington communications lawyer who served as head of the International Bureau at the Federal Communications Commission: "The big issue for all of these satellite operators is market access around the world. I think ultimately they will get such access. But the process of putting up satellites and gaining access is not going to be a cakewalk."

Indeed, Reston, Va.-based American Mobile Satellite Corp., which has only a single satellite offering commercial phone service in North America, has had a tough time attracting customers and been beset by technical and financial setbacks, acknowledged spokeswoman Renate Brown Neely.

The company's 1985 satellite launch was delayed for months. Once in orbit, the satellite suffered electrical damage when it was accidentally overpowered by a company engineer. Since it began operating in January, the service has attracted only about 15,500 subscribers, a small fraction of the 100,000 the company says it needs to break even.

"We're nine months behind schedule," Neely said. "Demand has not been what we expected."

Such dire talk doesn't faze Robert W. Kinzie, chairman of Washington-based Iridium Inc., which plans to launch the first of its 66 satellites this fall.

"We don't see cellular as a threat, because cellular customers are our [potential] customers," Kinzie said. "You can't use a cellular phone everywhere. What we are going to do is combine cellular with Iridium and provide better [wireless communications] penetration around the world."

Many satellite executives believe they can deliver these high-tech advantages at bargain-basement prices: about $2 to $3 a minute anywhere on the planet, according to Globalstar executives. That's far more expensive than direct dialing with a regular phone. But it is competitive with long-distance dialing by cellular phone.

For all that, the nature and scale of satellite communications are still on the technological drawing board. Two main kinds of systems will be competing for supremacy in the skies: little LEOs like Orbcomm and General Electric Co.'s Starsys Global Positioning Inc. satellites that focus on providing paging and other relatively modest services, and big LEOs like Globalstar, Iridium and TRW Inc.'s Odyssey, which aim to provide businesses and consumers with wide-scale voice, data and fax services.

Even more ambitious is Teledesic, a $9-billion, 840-satellite venture backed by Microsoft Corp. Chairman Bill Gates and cellular phone entrepreneur Craig McCaw, which is proposing a low-Earth-orbiting satellite network with enough capacity to transmit real-time video.

"Most people just assume our system is like Iridium on steroids," said W. Russell Daggatt, president of Teledesic. "But what we are trying to build is an entirely new open, distributed network" that would be modeled after the Internet rather than wireless phone service. Daggatt says his 840 satellites will have more than 1,000 times the message capacity of most Internet access lines, which he noted are already groaning under skyrocketing demand.

NEW YORK TIMES ____
WASHINGTON POST ____
THE WALL STREET JOURNAL ✓
LOS ANGELES TIMES ____
WASHINGTON TIMES ____
FINANCIAL TIMES ____
USA TODAY ____

DATE 9/9/96 PAGE B5

DOWN TO EARTH

New Generation of Low-Orbiting Communications Satellites Has Lofty Ambitions

By JUBE SHIVER Jr., TIMES STAFF WRITER
WASHINGTON

For decades, only space scientists seemed interested in satellites. But this winter, after years of being hamstrung by regulatory and financial obstacles, some of the biggest names in communications will begin launching payloads into orbit to provide voice, data, paging and fax services for customers around the globe.

The new satellite ventures have been encouraged by the worldwide deregulation of the communications industry and heartened by the success of digital television, which has attracted 4 million subscribers to video programming broadcast via satellite.

But the coming generation of satellites is designed to serve much greater ambitions—to leapfrog telephones and TV and become the most pervasive medium of communications yet.

Supporters of so-called low-Earth-orbiting satellites, or LEOs, envision an omnipresent celestial network allowing people in even the most remote regions of the planet to keep in touch via hand-held receivers no larger than cellular phones.

Already, some global communications satellite systems are up and running. Two satellites operated by Dulles, Va.-based Orbcomm Global now provide two-way paging and other services in North America for $15 a month.

Orbcomm's business rests on a significant technological breakthrough: its development of a suitcase-size, 95-pound satellite that could be launched for about one-twentieth the cost of a conventional $500-million, 5,000-pound satellite.

To be truly serviceable, however, an extraterrestrial global communications network will have to resemble Orbcomm on a much larger scale. Experts say construction of such a system could wind up being one of the most costly and technically challenging ventures in communications history.

Satellite communications involve a complex and costly mix of components located on Earth as well as in space.

The biggest payloads, gigantic geostationary satellites twice the size of dump trucks and weighing as much as 3 tons each, orbit 25,700 miles above Earth. Because that distance renders their signals relatively weak, they require huge Earth-based dishes or powerful and heavy handsets.

The newly developed low-Earth-orbiting satellites offer several advantages over their big cousins. For one thing, they orbit at 500 miles to 1,500 miles above Earth, allowing them to transmit signals without the troublesome half-second delay characteristic of geosynchronous satellites.

Because they are lighter and are perched on shallower orbits, they are cheaper to launch.

Signals relayed by the LEOs remain stronger thanks to the shorter distances, so they are compatible with handsets the size of today's cellular phones. Unlike cellular systems, however, which restrict users to continental or regional networks, the new satellite systems can operate worldwide, allowing customers to use one phone number and one handset wherever they go.

each site's post-antenna appearance. Zoning administrators come armed mostly with their own aesthetic sensibilities; some consider the antennas, which can be as much as 40 feet high with four or six vertical panels perched on top, to be eyesores.

Local residents come with concerns ranging from health hazards to community development.

"They're ugly and they're a nuisance," said Tim Sanders, president of the Eagle Rock Assn., which successfully fought PacBell over a proposed antenna site in the middle of a strip the neighborhood was hoping to turn into a pedestrian mall.

"We know this is only the beginning," Sanders said. "All these companies are going to want to put antennas in our neighborhood, and the more we give on this one the harder it will be to stop the proliferation."

Others are concerned about the antennas' potential for physical harm.

"I'm scared about the effects of low-level electromagnetic emissions," Shelley Ward, an office manager in a downtown building next to a proposed LA Cellular site, told Associate City Zoning Administrator Albert Landini at a hearing last week.

Wireless companies contend there are no harmful effects from radio frequency emissions.

And city officials say any judgments they could have rendered on health issues have been preempted by the Federal Telecommunications Act passed in February, which prohibits local governments from blocking the construction of wireless networks for reasons relating to the environment.

One Los Angeles resident, whose Wilshire-area building is home to a proposed antenna site, is suing the city in Los Angeles County Superior Court to overturn its interpretation of the law.

But for now, beautification is the zoning department's sole concern. Fortunately for the future of communications in Los Angeles, the fake-palm-tree manufacturers of the world have been making great strides of late. Landini favors what he calls the "palm garden alternative," in which 40-foot antennas are shrouded in fiberglass and natural fronds.

LA Times 9/9/96 Page B5 cont'd

17

To: Terry Johnson, PAS
From: Jacki Ponti, IB
Subject: Regulatory Fee Proposals

In reviewing the current schedule of regulatory fees, the International Bureau has identified several additions and/or changes that should be incorporated into the FY 1996 Regulatory Fee NPRM. Attached is a revised fee volume estimate that reflects these proposed changes, as well as text defining the new or modified service categories and the proposed fee calculations.

(1) You will notice that Space Stations have been more appropriately divided into just two categories based on type of satellite rather than service provided. (Geosynchronous Space Stations and Non-Geosynchronous Space Stations) A detailed justification for placing DBS within the Geosynchronous category along with responses to your earlier inquiries will be sent to you shortly.

(2) In addition, the International Bureau, in response to comments filed during the FY 1995 rulemaking process for regulatory fees, is proposing to add two other categories of fees: Signatory to INTELSAT and Signatory to INMARSAT. A more detailed write-up will be forwarded to you next week.

These changes will not only impact the regulatory fee schedule, but will dictate a change in the codes used by our employees for the Commission's cost accounting system. Specifically, DBS should be deleted and replaced with Non-Geosynchronous Space Stations; Space Stations should be changed to Geosynchronous Space Stations; and two new codes will have to be added for Signatory to INTELSAT and Signatory to INMARSAT. These changes must be made soon in order to develop cost data for the next fee filing round.

If you would like to set up a meeting with our Satellite Division representitives, please contact me at 418-0453.

DBS = Non-Geosynchronous

OK

Terry - our FY 1997 circuits counts do include the domestic common carriers who have international circuits. Comsat asked for two things in their comments last year:

1. They asked for a reduction of their fee to $0.80 and claimed that the increase in the fee rate could not be justified based on costs incurred by the Commission.

2. Comsat contended that our estimated number of payment units was too low because we did not take into account the DISCO - I proceeding. **However, because the DISCO - I Order did not become effective until after the calculation date for FY 1996 regulatory fees (October 1, 1995), we determined that estimates were the correct base to use when developing the FY 1996 Fees. Since that time, all of the common carriers were required to file international bearer circuit status reports. That data includes both domestic and international satellites common carriers with active international bearer circuits. I provided you with a lis of each carrier and the number of circuits for which they filed.**

3. They specifically asked us to make clear that the international bearer circuit fees are to be paid for by "all facilities based satellite operations, not merely satellite common-carriers. **This is why John's write-up is important. It addresses this issue. Pete has a copy of it and I can get you another one if necessary. John i out and I cannot get an electronic copy. It basically states that there is not reason for exempting non-common carrier cable and satellite facilities from the payment of the fee, but the Commission does not have the circuit data to include in the current estimates. Therefore we are asking for comments on volumes if possible. IB will have to follow-up with an order to include this group in the circuit status reporting group. We have talked about this before.**

I am very concerned about paragraph 40 as it is currently written. Please take a look at John's draft. It hones in on the only issue left for Comsat to truly argue on bearer circuits this year.

REGULATORY FEES VOLUME ESTIMATES

SERVICE	FY 1994 ESTIMATED*	FY 1994 ACTUAL	FY 1995 ESTIMATED	FY 1995 ACTUAL	FY 1996 ESTIMATED	FY 1996 ACTUAL	FY 1997 ESTIMATED	FY 1997 ESTIMATED SOURCE	FY 1997 REVISED EST.	COMMENTS & REVISED SOURCES
Land Mobile (Exclusive)	2,492	2,852	13,213	20,998	1,350	7,180	14,175	WTB	14,175	
Private Microwave	1,400	823	6,440	6,294	7,025	5,446	5,351	WTB	5,350	
IVDS	25	2	1,450	4	10	16	0	WTB	0	
CMRS (Part 90 only)	0	0	0	0	4,200,000		0	WTB		
Ship	33,043	18,503	169,014	74,973	24,650	43,863	18,748	WTB	18,750	
Coast	423	362	2,797	1,785	1,800	1,366	1,337	WTB	1,340	
GMRS/Other Land Mobile	12,975	20,110	95,870	73,270	76,025	68,999	7,102	WTB	69,000	
Aircraft	7,859	3,897	37,681	30,088	12,050	16,273	3,500	WTB	3,500	
Ground	386	244	2,660	1,678	1,700	1,604	1,611	WTB	1,610	
Amateur Vanity	500	0	28,000	0	20,000	9,847	10,000	WTB	10,000	
CMRS - Cellular/Pub. Mobile/PCS	30,000,000	19,406,634	23,400,000	22,959,273	30,000,000	24,560,543	51,472,190	WTB	46,020,000	Cellular 38,000,000 (CTIA)
CMRS - Paging	0	0	19,600,000	12,189,094	24,500,000	18,810,299	48,900,000	MTA-EMCI	28,800,000	Cellular 51,400,000 (Herschel Shosteck Associates)
AM Class A	73	130	77	107	110	102	77	MMB (AM Engineering DB)	102	SMR 3,320,000 (MTA-EMCI)
AM Class B	1,687	1,314	1,711	1,341	1,350	1,367	1,730	MMB (AM Engineering DB)	1,367	PCS 4,700,000 (Insight Research Corp.)
AM Class C	967	1,010	1,033	1,077	1,080	1,191	1,023	MMB (AM Engineering DB)	1,191	CMRS Paging 28,847,100 (WTB)
AM Class D	1,977	1,467	2,120	1,451	1,450	1,464	2,072	MMB (AM Engineering DB)	1,464	
AM CP	163	58	79	34	35	48	56	MMB (AM Engineering DB)	48	
FM C,C1,C2,B	2,274	2,256	2,481	2,220	2,220	2,408	2,629	MMB (FM Engineering DB)	2,408	
FM A,B1,C3	2,393	2,181	2,586	2,201	2,200	2,494	2,762	MMB (FM Engineering DB)	2,494	
FM CP	1,585	441	703	344	350	325	522	MMB (FM Engineering DB)	325	
TV VHF 1-10	45	44	43	40	40	27	43	Warren Factbook 96	43	42 (BIA DB 9/25/96)
TV VHF 11-25	60	54	57	45	45	44	64	Warren Factbook 96	64	60 (BIA DB 9/25/96)
TV VHF 26-50	72	77	78	80	80	63	78	Warren Factbook 96	78	68 (BIA DB 9/25/96)
TV VHF 51-100	137	120	101	110	110	110	137	Warren Factbook 96	137	118 (BIA DB 9/25/96)
TV VHF Remaining	243	234	168	197	200	216	225	Warren Factbook 96	225	200 (BIA DB 9/25/96)
TV VHF CP	15	8	11	8	10	2	14	MMB (BAPS)	5	
TV UHF 1-10	79	63	86	66	65	67	89	Warren Factbook 96	89	89 (BIA DB 9/25/96)
TV UHF 11-25	77	64	73	58	60	66	86	Warren Factbook 96	86	88 (BIA DB 9/25/96)
TV UHF 26-50	101	64	91	65	65	86	106	Warren Factbook 96	106	109 (BIA DB 9/25/96)
TV UHF 51-100	142	118	136	111	110	127	163	Warren Factbook 96	163	152 (BIA DB 9/25/96)
TV UHF Remaining	160	164	147	158	160	179	165	Warren Factbook 96	165	177 (BIA DB 9/25/96)
TV UHF CP	121	69	145	60	60	53	122	MMB (BAPS)	50	
Satellite TV	0	0	110	87	90	96	104	BIA DB (9/25/96)	96	
Satellite TV CP	0	0	5	3	5	8	8	FY96 Actual	8	
LPTV, Trans. /Boosters	4,944	1,783	7,120	1,885	2,000	2,194	9,010	Broadcasting & Cable Mag.	2,200	6,872 (MMB BAPS) + 1,750 (MMB FM Engineering DB)
Auxiliary	50,000	19,726	30,000	19,887	20,000	19,702	20,000	WTB	20,000	
MDS				1,130	1,130	1,145	1,196	MMB	1,145	
CARS	2,082	1,901	2,082	2,289	2,200	1,073	1,669	CSB	1,075	
Cable Systems	59,000,000	57,271,098	60,000,000	60,211,803	62,000,000	42,417,083	64,000,000	Broadcasting & Cable Mag.	65,000,000	61,700,000 (Warren Factbook 96)
IXCs,LECs,CAPs etc.			52,626,000,000	56,201,920,943	56,467,000,000	50,752,424,480	52,950,000,000	PAS Estimate	52,950,000,000	
Dom. Pub. Fixed/Cmc'l Microwave	18,000	13,292	14,000	15,618	16,000	12,012	18,845	WTB	18,845	
Earth Stations (T/R & T)			3,378	5,613	5,700	2,465	4,200	IB	2,500	
Space Stations	30	53	39	37	37	43	41	IB	41	
LEOs	0	0	0	0	1	1	1	IB	1	4 Big & 2 Little (L.A. Times)
DBS (subscribers)	0	0	0	0	1,500,000		3,000,000	Wall Street Journal	5,000,000	3,700,000 (Washington Post); 5,000,000 (Comm.Daily)
Int. Bearer Circuits	60,000	123,063	125,000	227,882	228,000	199,478	163,977	IB	164,000	
Int. Pub. Fixed			20	11	15	13	15	IB	15	
Int. HF Broadcast	7	7	19	4	4	6	6	IB	6	
Wireless Cable (MMDS)	0	0	0	0	750,000		900,000	Broadcasting & Cable Mag.		
Comm.-Based Trans.		0	0	0						
INTELSAT/INMARSAT Signatories	0	0	0	0	2	2	2	IB	2	
SMATVs					950,000		800,000	Broadcasting & Cable Mag.		
Home Satellite Dish (HSDs)					2,341,000				6,140,000	Comm. Daily
Video Dial Tone					9,350					

*Less than full year.

FY ?

1995

** Regulatory Fees Collected October 1, 1994 THRU November 30, 1995				
	* FOR QUANTITY PURPOSES ONLY			
PTC	Service	Value of PTC	Quantity	Amount
	COMMON CARRIER BUREAU SERVICES			
CAAN	Earth Station Less than 9 meters	$6.00	288	$1,732.22
CARN	Mobile Satellite Earth Stations	$330.00	209	$68,943.00
CAVN	VSAT and Equivalent C-Bands	$330.00	467	$154,101.00
CCDN	Domestic Public Fixed	$140.00	15,618	$2,187,993.05
CDCN	Cellular Radio Licenses	$0.15	22,873,281	$3,430,991.38
CDIN	Interexchange Carriers	0.00088	32,628,986,885	$28,713,508.46
CDMN	Public Mobile Service Licenses	$0.06	942,964	$56,577.84
CDPN	Competitive Access Providers	0.00088	187,261,409	$164,790.04
CDWN	Public Mobile Radio-One Way Paging	$0.02	12,189,094	$243,780.15
CFRN	International Public Fixed Radio	$200.00	11	$2,200.00
CDXN	Local Exchange Carriers	0.00088	22,508,399,977	$19,807,391.98
CICN	International Bearer Circuit	$4.00	227,882	$911,530.03
CIPN	Other Interstate Providers	0.00088	18,903,534	$16,635.11
CPMN	Public Mobile Radio-Two Way	$0.15	85,992	$12,898.80
CRIN	International (HF) Broadcast Station	$250.00	4	$1,000.00
CRPN	Resellers	0.00088	664,718,682	$584,952.44
CSGN	Space Station Geostationary Orbit	$75,000.00	36	$2,725,000.00
CSPN	Operator Service Providers	0.00088	193,650,818	$170,412.72
CSTN	Earth Station T/R or Transmit Only	$330.00	4,937	$1,629,433.28
	Sub-total for CCB		56,238,262,088	$60,883,871.50
	MASS MEDIA BUREAU SERVICES			
MLAN	Class A Station License	$1,120.00	107	$120,157.00
MNAN	Class B Station AM License	$620.00	1,341	$831,548.25
MRAN	Class C Station AM License	$250.00	1,077	$269,396.75
MPAN	Class D Station AM License	$310.00	1,451	$449,897.50
MUBN	Broadcast Auxiliary Station License	$30.00	19,887	$596,638.75
MTAN	Const. Permit for New AM Station	$125.00	34	$4,350.00
MLFN	Class C,C1,C2 or B FM License	$1,120.00	2,220	$2,486,972.11
MMFN	Class A,B1 or C3 FM License	$745.00	2,201	$1,640,430.70
MNFN	Const. Permit New FM Station	$620.00	344	$213,340.00
MAVN	Commercial VHF Market 1-10	$22,420.00	40	$898,120.00
MBVN	Commercial VHF Market 11-25	$19,925.00	45	$897,175.00

* There were 37 licenses that paid however 1 license under PAID by $50,000.

MEVN	Commercial VHF Markets 26-50	$14,950.00	80	$1,209,926.00
MGVN	Commercial VHF Markets 51-100	$9,975.00	110	$1,105,042.00
MIVN	Commercial VHF Remain. Markets	$6,225.00	197	$1,229,830.00
MJVN	Commercial VHF Const. Permits	$4,975.00	8	$42,300.00
MCU1	UHF Markets I-10/1st Installment	$7,200.00	3	$24,325.00
MCU2	UHF Markets 1-10/2nd Installment	$7,200.00	2	$14,400.00
MCUN	Commercial UHF Markets 1-10	$17,925.00	66	$1,189,505.00
MDUN	Commercial UHF Markets II-25	$15,950.00	58	$936,725.00
MFUN	Commercial UHF Markets 26-50	$11,950.00	65	$777,050.00
MHUN	Commercial UHF Markets 51-100	$7,975.00	111	$890,990.00
MJUN	Commercial UHF Remain. Markets	$4,975.00	158	$790,415.00
MKUN	Commercial UHF Const. Permits	$3,975.00	60	$242,300.00
MSSN	All Markets:	$620.00	87	$53,940.00
MCSN	Construction Permits	$225.00	3	$675.00
MLPN	Low Power Television Station,	$170.00	1,462	$248,695.00
MSFN	FM Translator/FM Booster	$170.00	423	$71,970.00
MDSN	Multipoint Distribution Service	$140.00	1,130	$158,203.69
MSTN	Low Power /Translator/Booster	$135.00	94	$12,792.50
	Sub-total for MMB		**32,864**	**$17,407,110.25**
	CABLE BUREAU SERVICES			
TOC1	Cable Sys. Subscriber/1st Installmt	$0.37		
TOC2	Cable Sys. Subscriber/2nd Installmt	$0.37	565,398	$209,197.33
TOCN	Cable System Subscriber	$0.49	60,218,950	$29,507,285.51
TQCN	CARS License	$290.00	2,289	$664,081.14
	Sub-total for CSB		**60,786,637**	**$30,380,563.98**
	PRIVATE RADIO BUREAU SERVICES			
Private Radio Bureau Exclusive				
PALS	Land Mobile	$80.00	20,998	$1,679,847.00
PEOR	Microwave	$80.00	6,294	$503,560.00
PAIR	IVDS	$35.00	4	$160.00
	Sub-total Exclusive		**27,296**	**$2,183,567.00**
Private Radio Bureau Shared Use				
	Amateur Vanity Call Sign			
	Aviation			
PAAR	Aircraft	$70.00	27,505	$1,925,389.00
PACR	Aircraft	$35.00	2,583	$88,235.00
PBVR	Ground	$35.00	1,587	$55,575.00

01/19/96 FRI 11:28 FAX 2024182843 FCC-FOD

	Marine			
PBMR	Coast	$35.00	1,719	$60,187.00
PASR	Ship	$70.00	71,150	$4,980,526.00
PALR	GMRS/Other Land Mobile	$35.00	73,270	$2,564,459.00
PALT	Nationwide (renewal)	$80.00	1	$80.00
	Sub-total Shared Use		**177,815**	**$9,674,451.00**
	GRAND TOTAL REGULATORY FEES		**56,299,286,700**	**$120,529,563.73**

Code CSGN
Washington, DC

From: 8 /1 /1995 To: 11/30/1995

Fee Control Num	Seq	Qty	Payor Name	Amount	Overage
9509218835289001	1	1	HUGHES COMMUNICATIONS G	75,000.00	$0.00
9509218835390001	21	1	HUGHES COMMUNICATIONS S	75,000.00	$0.00
9509228835562015	2	1	COLUMBIA COMMUNICATIONS	75,000.00	$0.00
9509228835562015	1	1	COLUMBIA COMMUNICATIONS	75,000.00	$0.00
9510048835236002	2	1	PANAMSAT CORPORATION	75,000.00	$0.00
9510048835236002	1	1	PANAMSAT CORPORATION	75,000.00	$0.00
9511068835374003	1	1	GE AMERICAN COMMUNICATI	10,000.00	$0.00
Total No. : 38				Sum:	$2,725,000.00

APPD June 1995

Fee Control Num	Seq	Qty	Payor Name	Amount	Overage
9509188835050012	5	1	COMSAT GENERAL CORPORA	75,000.00	$0.00
9509188835050012	1	1	COMSAT GENERAL CORPORA	75,000.00	$0.00
9509188835050012	6	1	COMSAT GENERAL CORPORA	75,000.00	$0.00
9509188835050012	3	1	COMSAT GENERAL CORPORA	75,000.00	$0.00
9509188835050012	4	1	COMSAT GENERAL CORPORA	75,000.00	$0.00
9509188835050012	2	1	COMSAT GENERAL CORPORA	75,000.00	$0.00
9509208835353005	14	1	GE AMERICAN COMMUNICATI	75,000.00	$0.00
9509208835353005	15	1	GE AMERICAN COMMUNICATI	75,000.00	$0.00
9509208835353005	13	1	GE AMERICAN COMMUNICATI	75,000.00	$0.00
9509208835353005	12	1	GE AMERICAN COMMUNICATI	75,000.00	$0.00
9509208835353005	11	1	GE AMERICAN COMMUNICATI	75,000.00	$0.00
9509208835353005	8	1	GE AMERICAN COMMUNICATI	75,000.00	$0.00
9509208835353005	10	1	GE AMERICAN COMMUNICATI	75,000.00	$0.00
9509208835353005	18	1	GE AMERICAN COMMUNICATI	75,000.00	$0.00
9509208835353005	17	1	GE AMERICAN COMMUNICATI	75,000.00	$0.00
9509208835353005	9	1	GE AMERICAN COMMUNICATI	75,000.00	$0.00
9509208835353005	19	1	GE AMERICAN COMMUNICATI	75,000.00	$0.00
9509208835353005	20	1	GE AMERICAN COMMUNICATI	15,000.00	$0.00
9509208835353005	16	1	GE AMERICAN COMMUNICATI	75,000.00	$0.00
9509208835722006	10	1	AT&T CORP	75,000.00	$0.19
9509208835722006	2	3	AT&T CORP	225,000.00	$0.19
9509218835289001	9	1	HUGHES COMMUNICATIONS G	75,000.00	$0.00
9509218835289001	8	1	HUGHES COMMUNICATIONS G	75,000.00	$0.00
9509218835289001	7	1	HUGHES COMMUNICATIONS G	75,000.00	$0.00
9509218835289001	6	1	HUGHES COMMUNICATIONS G	75,000.00	$0.00
9509218835289001	5	1	HUGHES COMMUNICATIONS G	75,000.00	$0.00
9509218835289001	4	1	HUGHES COMMUNICATIONS G	75,000.00	$0.00
9509218835289001	3	1	HUGHES COMMUNICATIONS G	75,000.00	$0.00
9509218835289001	2	1	HUGHES COMMUNICATIONS G	75,000.00	$0.00

** Regulatory Fees Collected October 1, 1995 Thru October 22, 1996

PTC	Service	Value of PTC	Quantity Per Collection Rpt	Fees Collected Per Coll Rpt	Fees Calculated (Quantity * PTC)	Diff in Fees (Coll- Calc.)	Quantity (Fees Coll/PTC)	Diff in Quantity (Rpt - Calc.)
	COMMON CARRIER BUREAU SERVICES							
CCD6	Domestic Public Fixed	$155.00	44025	$1,861,795.00	$6,823,875.00	($4,962,080.00)	12,012	32,013
COD6	INTEREXCHANGE CARRIERS	0.00098	7,912,807,260	$49,737,375.99	$7,754,551.11	$41,982,824.88	50,752,424,480	-42,839,617,220
CFR6	International Public Fixed Radio	$225.00	13	$2,925.02	$2,925.00	$0.02	13	0
CIC6	International Bearer Circuit	$4.00	483,714	$797,913.28	$1,854,856.00	($1,056,942.72)	199,478	284,236
CLE6	Low Earth Orbit Satellite	$97,725.00	1	$97,725.00	$97,725.00	$0.00	1	0
CRI6	International (HF) Broadcast Stations	$280.00	6	$1,680.00	$1,680.00	$0.00	6	0
CSA6	INMARSAT/INTELSAT	$233,425.00	6	$468,330.00	$1,400,550.00	($932,220.00)	2	4
CSG6	Space Station Geostationary Orbit	$70,575.00	1,263	$3,037,737.50	$89,136,225.00	($86,098,487.50)	43	1,220
CAM6	Earth Stations	$370.00	4,861	$912,177.06	$1,798,570.00	($886,392.94)	2,465	2,396
	Sub-total for CCB		**7,913,321,149**	**$56,917,658.85**	**$108,870,957.11**	($51,953,298.26)	**50,752,638,500**	-42,839,317,351
	MASS MEDIA BUREAU SERVICES							
MLA6	Class A Station License	$1,250.00	104	$127,175.00	$130,000.00	($2,825.00)	102	2
MNA6	Class B Station AM License	$690.00	1,401	$943,137.75	$966,690.00	($23,552.25)	1,367	34
MRA6	Class C Station AM License	$280.00	1,214	$333,367.80	$339,920.00	($6,552.20)	1,191	23
MPA6	Class D Station AM License	$345.00	1,479	$505,027.07	$510,255.00	($5,227.93)	1,464	15
MUB6	Broadcast Auxiliary Station License	$35.00	20,199	$689,565.50	$706,965.00	($17,399.50)	19,702	— 497
MTA6	Const. Permit for New AM Station	$140.00	46	$6,735.00	$6,440.00	$295.00	48	-2
MLF6	Class C,C1,C2 or B FM License	$1,250.00	127,456	$3,009,855.01	$159,320,000.00	($156,310,144.99)	2,408	125,048
MMF6	Class A,B1 or C3 FM License	$830.00	85,548	$2,070,056.76	$71,004,840.00	($68,934,783.24)	2,494	83,054
MNF6	Const. Permit New FM Station	$690.00	338	$224,040.00	$233,220.00	($9,180.00)	325	13
MAV6	Commercial VHF Market 1-10	$32,000.00	28	$866,500.00	$896,000.00	($29,500.00)	27 ✓	1
MBV6	Commercial VHF Market 11-25	$26,000.00	44	$1,143,800.00	$1,144,000.00	($200.00)	44	0
MEV6	Commercial VHF Markets 26-50	$17,000.00	62	$1,063,000.00	$1,054,000.00	$9,000.00	63	-1
MGV6	Commercial VHF Markets 51-100	$9,000.00	111	$990,035.00	$999,000.00	($8,965.00)	110	1
MIV6	Commercial VHF Remain. Markets	$2,500.00	205	$539,325.00	$512,500.00	$26,825.00	216	-11
MJV6	Commercial VHF Const. Permits	$5,550.00	4	$11,100.00	$22,200.00	($11,100.00)	2	2
MCU6	Commercial UHF Markets 1-10	$25,000.00	69	$1,677,350.00	$1,725,000.00	($47,650.00)	67	2
MDU6	Commercial UHF Markets II-25	$20,000.00	67	$1,316,150.00	$1,340,000.00	($23,850.00)	66	1
MFU6	Commercial UHF Markets 26-50	$13,000.00	87	$1,113,517.50	$1,131,000.00	($17,482.50)	86	1
MHU6	Commercial UHF Markets 51-100	$7,000.00	130	$885,900.00	$910,000.00	($24,100.00)	127	3
MJU6	Commercial UHF Remain. Markets	$2,000.00	179	$358,610.00	$358,000.00	$610.00	179	0
MKU6	Commercial UHF Const. Permits	$4,425.00	57	$236,175.00	$252,225.00	($16,050.00)	53	4
MSS6	Satellite TV/All Markets:	$690.00	96	$66,100.00	$66,240.00	($140.00)	96	0
MCS6	Construction Permits	$250.00	8	$2,000.00	$2,000.00	$0.00	8	0
MLP6	Low Power TV/Translator/TV Booster	$190.00	103,748	$325,706.31	$19,712,120.00	($19,386,413.69)	1,714	102,034
MSF6	FM Translator/FM Booster	$190.00	479	$91,261.50	$91,010.00	$251.50	480	-1

** Regulatory Fees Collected October 1, 1995 Thru October 22, 1996

PTC	Service	Value of PTC	Quantity Per Collection Rpt	Fees Collected Per Coll Rpt	Fees Calculated (Quantity * PTC)	Diff in Fees (Coll- Calc.)	Quantity (Fees Coll/PTC)	Diff in Quantity (Rpt - Calc.)
MDS6	Multipoint Distribution Service	$155.00	1,148	$177,470.00	$177,630.00	($160.00)	1,145	1
	Sub-total for MMB		**344,305**	**$18,772,960.20**	**$263,611,255.00**	($244,838,294.80)	**33,582**	310,723
	CABLE BUREAU SERVICES							
TOC6	Cable Sys. Subscriber	$0.55	36,602,467	$21,402,536.08	$20,131,356.85	$1,271,179.23	38,913,702	-2,311,235
TQC6	CARS License	$325.00	21,096	$348,578.45	$6,856,200.00	($6,507,621.55)	1,073	20,023
	Sub-total for CSB		**36,623,563**	**$21,751,114.53**	**$26,987,556.85**	($5,236,442.32)	**38,914,775**	-2,291,212
	WIRELESS TELECOMMUNICATIONS BUREAU							
CDC6	Cellular	$0.17	19,907,624	$4,140,386.78	$3,384,286.08	$756,090.70	24,355,216	-4,447,592
CDW6	Public Mobile Radio- One Way	$0.02	17,927,073	$376,205.97	$358,541.46	$17,664.51	18,810,299	-883,226
CPM6	Public Mobile Radio-Two Way	$0.17	210,156	$34,905.56	$35,726.52	($820.97)	205,327	4,829
PALS	Land Mobile	$30.00	7,295	$215,405.00	$218,850.00	($3,445.00)	7,180	115
PEOR	Microwave	$30.00	5,510	$163,370.00	$165,300.00	($1,930.00)	5,446	64
PAIR	IVDS	$30.00	18	$480.00	$540.00	($60.00)	16	2
PAAR	Aircraft	$30.00	16,250	$488,200.00	$487,500.00	$700.00	16,273	-23
PBVR	Ground	$15.00	1,595	$24,055.00	$23,925.00	$130.00	1,604	-9
PBMR	Coast	$15.00	1,340	$20,485.00	$20,100.00	$385.00	1,366	-26
PASR	Ship	$30.00	43,923	$1,315,895.00	$1,317,690.00	($1,795.00)	43,863	60
PALR	GMRS/Other Land Mobile	$15.00	74,798	$1,034,989.38	$1,121,970.00	($86,980.62)	68,999	5,799
NAVR	Vanity Call Sign	$30.00	10,067	$295,410.00	$302,010.00	($6,600.00)	9,847	220
PALT	220 Nationwide (renewal)	$70.00	1	$60.00	$70.00	($10.00)	1	0
	Sub-total WTB		**38,205,650**	**$8,109,847.68**	**$7,436,518.06**	$673,328.62	**43,525,436**	-5,319,786
	MISCELLANEOUS							
DISC:	TCI- Reg Fees		3,503,381	$23,752,186.52				
FINE:	Penalty		127	$20,594.87				
ZZZZ	Unapplied		8,571,643	$267,764.93				
	Sub-total Misc		**12,075,151**	**24,040,546.32**				
	GRAND TOTAL REGULATORY FEES		**8,000,569,818**	**$129,592,127.58**	**$406,906,288**	($277,314,160.44)	**50,835,112,293**	**-42,834,542,475**

FCC - Salaries and Expenses Appropriation
Total Costs by Projects And Activities
10/95 through 9/96

Project Code	Project Name	10, 11 Authorization of Service ($)	20, 21 Policy and Rule Making ($)	30, 31 Enforcement ($)	40, 41 Public Info. Services ($)	Total for 20, 21, 30, 31, 40, 41 ($)	%	Total ($)
N01	Land Mobile - Exclusive Use	7,823.30	65,941.67	408,284.56	51,720.25	525,946.49	0.372 %	533,769.79
N02	Microwave	1,940,402.74	645,931.86	168,063.18	30,545.73	844,540.77	0.598 %	2,784,943.51
N03	Interactive Video Digital Service (IVDS)	283.54	242,598.38	49,744.48	3,788.01	296,130.87	0.210 %	296,414.41
N04	Aviation (Aircraft)	162,287.44	198,860.99	331,568.46	102,425.97	632,855.42	0.448 %	795,142.85
N05	Aviation (Ground)	176,346.06	19,302.42	241,609.23	62,083.20	322,994.85	0.229 %	499,340.92
N06	Marine (Ships)	448,762.41	569,074.90	2,672,640.91	768,671.88	4,010,387.69	2.840 %	4,459,150.09
N07	Marine (Coast)	177,432.91	39,197.98	364,017.52	77,696.68	480,912.17	0.341 %	658,345.08
N08	General Mobile Radio Service (GMRS)	54,014.50	57,155.26	116,702.89	210,852.33	384,710.47	0.272 %	438,724.97
N09	Land Mobile - Share Use	4,562,650.01	1,563,869.02	2,046,292.51	537,317.71	4,147,479.25	2.937 %	8,710,129.25
N10	Amateur Vanity Call Signs	6,512.16	87,041.49	47,178.52	31,951.23	166,171.24	0.118 %	172,683.40
N11	Cable Antenna Relay Service (CARS)	280,201.72	7,040.89	46,379.98	2,726.47	56,147.35	0.040 %	336,349.07
N12	Cable Television Systems	75,491.79	4,653,117.89	10,930,290.61	3,288,409.55	18,871,818.06	13.362 %	18,947,309.85
N13	Domestic Public Fixed Radio	0.00	300.95	43,046.97	10,212.21	53,560.13	0.038 %	53,560.13
N14	Cellular Radio	1,737,364.71	889,458.99	736,325.13	319,709.29	1,945,493.41	1.378 %	3,682,858.11
N15	Public Mobile Radio/CMRS/Two-way Paging	634,628.17	4,034,718.55	83,402.79	82,157.90	4,200,279.24	2.974 %	4,834,907.41

FCC - Salaries and Expenses Appropriation
Total Costs by Projects And Activities
10/95 through 9/96

Project Code	Project Name	10, 11 Authorization of Service ($)	20, 21 Policy and Rule Making ($)	30, 31 Enforcement ($)	40, 41 Public Info. Services ($)	Total for 20, 21, 30, 31, 40, 41 ($)	%	Total ($)
N16	Public Mobile Radio/One-way Paging	1,433,200.16	276,215.71	219,434.26	143,317.16	638,967.13	0.452 %	2,072,167.29
N17	International Public Fixed Radio	0.00	1,269.59	18,312.27	3,039.38	22,621.25	0.016 %	22,621.25
N18	Earth Stations	1,237,422.53	117,055.06	31,818.90	25,960.49	174,834.45	0.124 %	1,412,256.98
N19	Space Stations	1,463,231.95	4,089,171.04	36,070.81	51,296.10	4,176,537.96	2.957 %	5,639,769.90
N20	IXC, LEC, and Other Providers	321,286.51	19,833,867.99	15,683,264.86	1,598,090.56	37,115,223.40	26.279 %	37,436,509.91
N21	International Bearer Circuits	213,152.70	4,605,337.38	33,363.07	126,383.38	4,765,083.83	3.374 %	4,978,236.53
N22	Personal Communication Services (PCS)	245,922.95	1,096,900.25	104,559.88	214,637.36	1,416,097.49	1.003 %	1,662,020.45
N23	AM Radio	4,848,408.00	761,482.66	2,008,053.13	338,145.27	3,107,681.07	2.200 %	7,956,089.06
N24	FM Radio	7,570,724.78	2,613,463.51	2,504,974.65	615,812.73	5,734,250.90	4.060 %	13,304,975.68
N25	VHF Television	1,383,642.36	2,314,746.18	1,094,471.85	251,034.40	3,660,252.43	2.592 %	5,043,894.79
N26	UHF Television	1,002,127.02	1,680,178.92	749,842.46	116,354.38	2,546,375.76	1.803 %	3,548,502.78
N27	Broadcast Auxilliary Stations	63,490.11	150,650.15	60,415.98	31,831.25	242,897.38	0.172 %	306,387.49
N28	LPTV/Translators/Boosters	2,037,123.53	79,880.24	67,875.28	110,541.11	258,296.62	0.183 %	2,295,420.16
N29	International Short Wave	197,728.21	92,972.94	113,384.38	4,658.96	211,016.28	0.149 %	408,744.48
N30	Multipoint Distribution Service/MMDS	1,548,321.79	218,989.39	139,586.90	12,883.99	371,460.28	0.263 %	1,919,782.07

FCC - Salaries and Expenses Appropriation
Total Costs by Projects And Activities
10/95 through 9/96

Project Code	Project Name	10, 11 Authorization of Service ($)	20, 21 Policy and Rule Making ($)	30, 31 Enforcement ($)	40, 41 Public Info. Services ($)	Total for 20, 21, 30, 31, 40, 41 ($)	%	Total ($)
N31	Amateur Radio	449,031.85	239,390.49	736,882.69	434,079.47	1,410,352.66	0.999 %	1,859,384.52
N32	Direct Broadcast Satellite (DBS)	50,298.96	213,873.51	4,352.86	46,839.47	265,065.85	0.188 %	315,364.81
N33	Commercial Radio Operators	188,359.06	13,033.17	4,832.57	184,801.90	202,667.64	0.143 %	391,026.69
N34	Restricted Permits	73,230.45	998.02	2,744.36	96,123.32	99,865.70	0.071 %	173,096.15
N35	Citizens' Band Radio (CB) and Radio Control	10,757.64	75,050.27	478,454.72	1,551,367.34	2,104,872.33	1.490 %	2,115,629.96
N36	Certification/Type Acceptance/Approval/Notification	1,416,450.75	618,357.49	460,618.05	314,977.56	1,393,953.09	0.987 %	2,810,403.84
N37	Other	5,349,050.62	11,427,154.86	11,931,609.94	11,004,386.35	34,363,151.15	24.331 %	39,712,201.77
N38	Low Earth Orbiting Satellite	0.00	4,397.85	0.00	53.21	4,451.06	0.003 %	4,451.06
N39	Signatory to Inmarsat and Instelsat	0.00	2,101.18	0.00	5,340.26	7,441.43	0.005 %	7,441.43
	Grand Total:	$41,367,163.36	$63,600,149.10	$54,770,471.62	$22,862,223.81	$141,232,844.53	100.0 %	$182,600,007.89

FCC - Summary Spectrum Auction Costs
Total Costs by Projects And Activities
10/95 through 9/96

Project Code	Project Name	91 Authorization of Service ($)	92 Policy and Rule Making ($)	93 Enforcement ($)	94 Public Info. Services ($)	Total for 92, 93, 94 ($)	%	Total ($)
N01	Land Mobile - Exclusive Use	346.41	11,038.92	0.00	0.00	11,038.92	0.410 %	11,385.32
N02	Microwave	1,356.10	51,296.65	0.00	1,481.01	52,777.65	1.959 %	54,133.75
N03	Interactive Video Digital Service (IVDS)	12,457.94	20,204.62	2,729.89	864.77	23,799.28	0.883 %	36,257.22
N04	Aviation (Aircraft)	0.00	447.02	0.00	0.00	447.02	0.017 %	447.02
N06	Marine (Ships)	0.00	0.00	295.25	0.00	295.25	0.011 %	295.25
N07	Marine (Coast)	0.00	14,999.97	0.00	0.00	14,999.97	0.557 %	14,999.97
N08	General Mobile Radio Service (GMRS)	3,041.41	1,118.83	0.00	0.00	1,118.83	0.042 %	4,160.24
N09	Land Mobile - Share Use	2,157.75	749.53	0.00	0.00	749.53	0.028 %	2,907.27
N13	Domestic Public Fixed Radio	0.00	8,339.90	0.00	0.00	8,339.90	0.310 %	8,339.90
N14	Cellular Radio	6,378.39	23,584.25	0.00	0.00	23,584.25	0.875 %	29,962.64
N15	Public Mobile Radio/CMRS/Two-way Paging	18,115.24	196,919.98	663.79	11,259.05	208,842.82	7.751 %	226,958.06
N16	Public Mobile Radio/One-way Paging	0.00	10,683.75	0.00	0.00	10,683.75	0.397 %	10,683.75
N18	Earth Stations	0.00	1,338.85	0.00	0.00	1,338.85	0.050 %	1,338.85
N19	Space Stations	0.00	6,987.65	0.00	0.00	6,987.65	0.259 %	6,987.65
N20	IXC, LEC, and Other Providers	0.00	1,565.98	1,738.43	0.00	3,304.41	0.123 %	3,304.41

FCC - Summary Spectrum Auction Costs
Total Costs by Projects And Activities
10/95 through 9/96

Project Code	Project Name	91 Authorization of Service ($)	92 Policy and Rule Making ($)	93 Enforcement ($)	94 Public Info. Services ($)	Total for 92, 93, 94 ($)	%	Total ($)
N21	International Bearer Circuits	0.00	0.00	0.00	1,525.68	1,525.68	0.057 %	1,525.68
N22	Personal Communication Services (PCS)	627,634.58	664,451.28	3,900.03	44,883.72	713,235.03	26.472 %	1,340,869.62
N26	UHF Television	0.00	3,430.69	0.00	0.00	3,430.69	0.127 %	3,430.69
N27	Broadcast Auxilliary Stations	1,700.04	0.00	0.00	0.00	0.00	0.000 %	1,700.04
N30	Multipoint Distribution Service/MMDS	346,317.09	223,639.78	6,723.64	196,905.24	427,268.66	15.858 %	773,585.75
N32	Direct Broadcast Satellite (DBS)	11,766.99	112,785.00	4,484.55	29,700.91	146,970.46	5.455 %	158,737.45
N33	Commercial Radio Operators	2,234.21	997.10	0.00	0.00	997.10	0.037 %	3,231.30
N37	Other	14,479,222.37	725,126.76	64,469.03	86,920.18	876,515.97	32.533 %	15,355,738.34
N51	Cellular Unserved	5,220.61	5,966.89	0.00	0.00	5,966.89	0.221 %	11,187.50
N52	IVDS RSAs/Defaults	0.00	5,912.14	0.00	0.00	5,912.14	0.219 %	5,912.14
N53	800 Mhz SMR	2,898.52	57,041.50	0.00	0.00	57,041.50	2.117 %	59,940.02
N54	PCS Narrowband	0.00	3,003.91	0.00	0.00	3,003.91	0.111 %	3,003.91
N55	PCS D, E & F	21,261.38	51,279.75	0.00	3,098.41	54,378.16	2.018 %	75,639.55
N56	LMDS 28 Ghz	6,399.18	19,770.12	0.00	0.00	19,770.12	0.734 %	26,169.30
N58	DARS	889.24	875.53	0.00	0.00	875.53	0.032 %	1,764.76

FCC - Summary Spectrum Auction Costs
Total Costs by Projects And Activities
10/95 through 9/96

Project Code	Project Name	91 Authorization of Service ($)	92 Policy and Rule Making ($)	93 Enforcement ($)	94 Public Info. Services ($)	Total for 92, 93, 94 ($)	%	Total ($)
N59	220 MHz	0.00	9,072.54	0.00	0.00	9,072.54	0.337 %	9,072.54
	Grand Total:	$15,549,397.45	$2,232,628.88	$85,004.61	$376,638.97	$2,694,272.46	100.0 %	$18,243,669.91

FCC - Salaries and Expenses Appropriation
Reimbursable Costs by Projects And Activities

10/95 through 9/96

Project Code	Project Name	10 Authorization of Service ($)	20 Policy and Rule Making ($)	30 Enforcement ($)	40 Public Info. Services ($)	Total for 20, 30, 40 ($)	%	Total ($)
P02	Travel Reimbursement Program - Section 1353	9,973.60	28,421.37	39,858.57	8,366.73	76,646.67	11.637	86,620.27
P04	Bureau of Alcohol, Tobacco, and Firearms	949.35	0.00	12,656.39	0.00	12,656.39	1.922 %	13,605.74
P05	U.S. Customs Service	2,311.36	0.00	28,564.41	0.00	28,564.41	4.337 %	30,875.77
P07	VOA computer Models	0.00	0.00	279.97	0.00	279.97	0.043 %	279.97
P09	NTIS Tapes - Master Files	544.06	0.00	0.00	474.25	474.25	0.072 %	1,018.31
P10	NTIS Tapes - Public Access	13,864.33	0.00	0.00	0.00	0.00	0.000 %	13,864.33
P11	U.S. Coast Guard	241.50	1,003.68	245,616.55	1,090.71	247,710.94	37.608	247,952.44
P12	Drug Enforcement Agency	0.00	0.00	8,368.46	49.47	8,417.94	1.278 %	8,417.94
P13	ITU Fellows	1,006.86	58.46	114,191.60	91.60	114,341.65	17.360	115,348.51
P14	Radio Marti	17,037.44	56.77	28,190.99	18,516.65	46,764.42	7.100 %	63,801.86
P15	TV Marti	0.00	0.00	12,933.80	321.65	13,255.45	2.012 %	13,255.45
P16	NTIS - Source Program	257.15	0.00	0.00	0.00	0.00	0.000 %	257.15
P17	Miscellaneous Reimbursable	0.00	0.00	11,484.73	0.00	11,484.73	1.744 %	11,484.73
P18	U.S. Department of State	0.00	7,890.07	0.00	90,180.39	98,070.46	14.889	98,070.46
	Grand Total:	$46,185.65	$37,430.35	$502,145.47	$119,091.46	$658,667.28	100.0 %	$704,852.92

FCC - Summary
Costs By Activity

10/95 through 9/96

Activity	S&E/Reimb. All	S&E/Reimb. % of Grand Total	S&E/Reimb. FY Cost Proj.*	Telecomm. Act All	Telecomm. Act % of Grand Total	Telecomm. Act FY Cost Proj.*	Auction All	Auction % of Grand Total	Auction FY Cost Proj.*	Total All	Total % of Grand Total	Total FY Cost Proj.*
Authorization of Service	39,633,223.53	22.69 %	39,633,223.53	1,780,125.48	20.61 %	1,780,125.48	15,549,397.45	85.23 %	15,549,397.45	13,069,000.14	28.26 %	56,962,746.46
Policy and Rule Making	57,692,309.79	33.03 %	57,692,309.79	5,945,269.66	68.84 %	5,945,269.66	2,232,628.88	12.24 %	2,232,628.88	20,566,442.86	32.68 %	65,870,208.33
Enforcement	54,984,193.48	31.48 %	54,984,193.48	288,423.61	3.34 %	288,423.61	85,004.61	0.47 %	85,004.61	16,744,905.15	27.47 %	55,357,621.70
Public Information Services	22,358,914.91	12.80 %	22,358,914.91	622,400.36	7.21 %	622,400.36	376,638.97	2.06 %	376,638.97	6,908,038.49	11.59 %	23,357,954.23
Grand Total:	174,668,641.72	100.00 %	174,668,641.72	8,636,219.10	100.00 %	8,636,219.10	18,243,669.91	100.00 %	18,243,669.91	201,548,530.73	100.00 %	201,548,530.73

* The projection is based on the average of actual year-to-date data and extended for the remainder of the fiscal year.
** Columnar totals may not add due to rounding.

Date Prepared: 10/28/96

FCC - Summary
Costs By Bureau/Office
10/95 through 9/96

Code	Bureau/Office Name	S&E/Reimb.	Telecomm. Act	Auction	Leave	Support	Total
1	Office of Commissioner Hundt	9,123.86	0.00	0.00	305,556.94	886,336.74	**1,201,017.54**
2	Office of Commissioner Barrett	6,832.09	0.00	0.00	57,499.19	216,000.88	**280,332.16**
3	Office of Commissioner Ness	8,416.31	5,269.41	0.00	129,020.10	573,113.86	**715,819.68**
4	Office of Commissioner Chong	3,821.40	0.00	0.00	101,960.67	611,561.10	**717,343.17**
5	Office of Commissioner Quello	3,189.29	0.00	0.00	79,117.88	421,231.98	**503,539.15**
6	Office of Public Affairs	2,243,451.18	460,480.44	25,454.70	972,458.69	539,943.92	**4,241,788.93**
7	Office of Legislative & Intergovernmental Affairs	13,988.91	106,259.46	73,326.39	273,443.88	564,844.94	**1,031,863.58**
8	International Bureau	5,370,914.31	104,516.49	25,934.25	2,622,881.04	2,692,512.42	**10,816,758.51**
9	Office of Adminstrative Law Judges	40,568.11	0.00	0.00	364,489.28	712,948.05	**1,118,005.44**
10	Office of Plans & Policy	3,370.64	50,119.23	123,932.04	334,466.27	1,236,628.01	**1,748,516.19**
11	Office of the Managing Director	494,098.12	997,493.50	787,530.55	3,946,909.44	28,711,489.22	**34,937,520.83**
12	Cable Services Bureau	6,277,563.23	131,145.71	25,821.88	3,220,844.68	1,132,265.11	**10,787,640.61**
13	Office of Engineering and Technology	3,822,024.49	256,936.84	57,396.30	2,063,216.10	1,283,494.91	**7,483,068.64**
14	Office of General Counsel	1,896,424.02	191,847.39	161,129.90	1,878,618.85	3,320,322.73	**7,448,342.89**
15	Compliance & Information Bureau	6,575,578.97	776.00	5,821.82	7,965,969.70	12,451,413.57	**27,019,560.05**
16	Common Carrier Bureau	13,333,216.75	1,480,107.30	76,087.88	5,903,170.33	2,690,079.56	**23,482,661.82**
18	Mass Media Bureau	11,277,798.85	55,573.24	299,746.23	5,542,783.99	3,438,415.55	**20,614,317.86**
19	Review Board	162,359.55	0.00	0.00	99,413.87	67,240.74	**329,014.16**
20	Wireless Telecommunications Bureau	7,468,270.27	73,531.64	1,948,843.98	5,625,773.15	4,699,759.79	**19,816,178.83**
21	Office of Communication Business Opportunity	24,909.05	13,160.00	0.00	95,859.41	470,184.16	**604,112.62**
22	Office of Inspector General	538.25	0.00	40,128.65	106,867.58	302,373.66	**449,908.14**
23	Office of Workplace Diversity	375.00	0.00	0.00	89,280.71	249,528.72	**339,184.43**
51	CAM - 5100	0.00	0.00	0.00	0.00	256,353.33	**256,353.33**
52	CAM - 5200	0.00	0.00	0.00	0.00	70,260.32	**70,260.32**
53	CAM - 5300	4,321.89	1,468,723.90	0.00	0.00	8,755,863.27	**10,228,909.06**
54	CAM - 5400	20,755.85	7,914.00	12,080,032.42	0.00	643,460.32	**12,752,162.59**

** Columnar totals may not add due to rounding.

Date Prepared: 10/28/96